I 9

APR 20 1970

INDUSTRIAL FISHERY PRODUCTS

LIBRARY
APR 21 1970
FISH & WILDLIFE SERVICE

SITUATION & OUTLOOK

Current Economic Analysis · I 9 · April 1970

1969 REVIEW

Published quarterly by: UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE
BUREAU OF COMMERCIAL FISHERIES

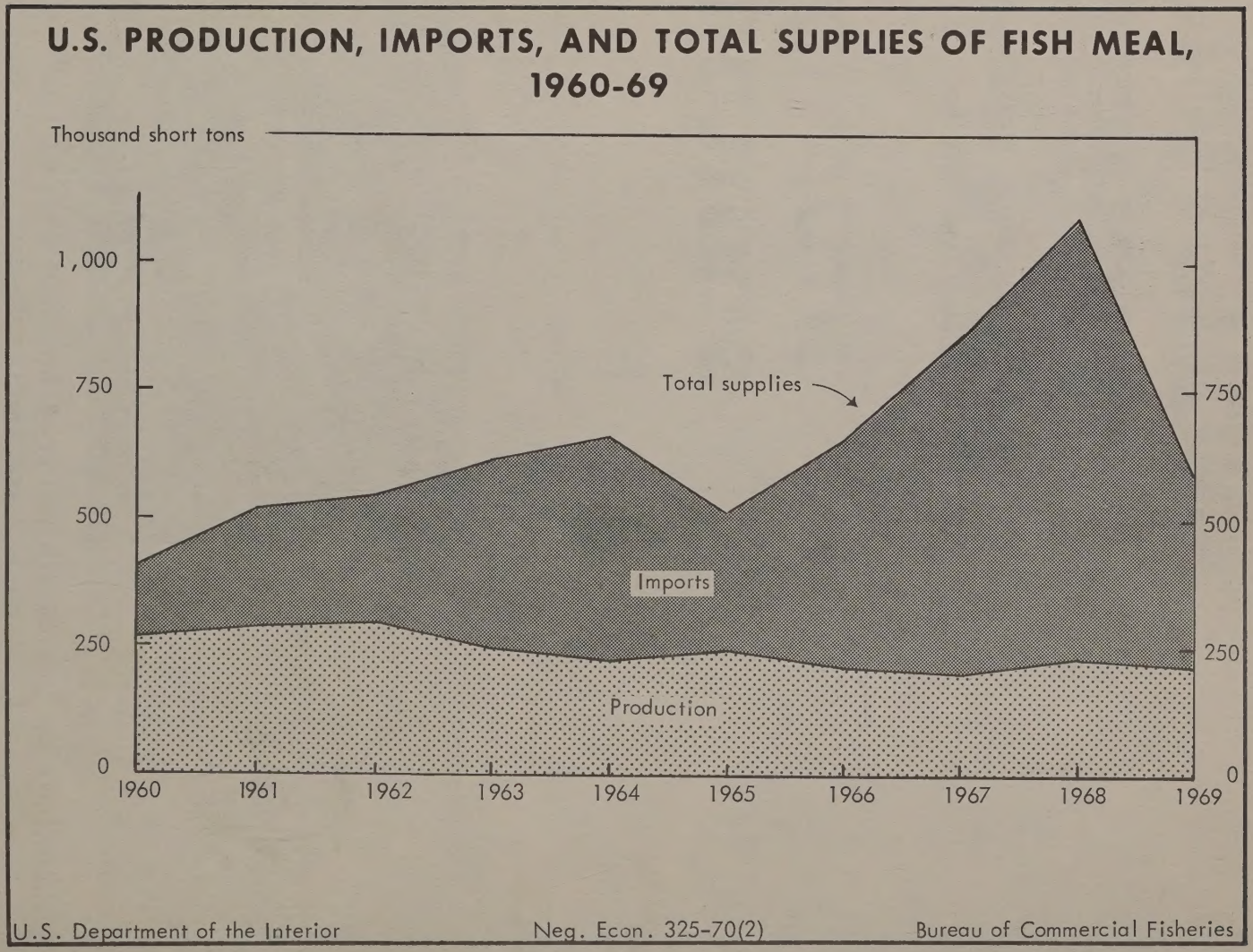

U.S. PRODUCTION, IMPORTS, AND TOTAL SUPPLIES OF FISH MEAL, 1960-69
Thousand short tons
1,000
750
500
250
0
Total supplies
Imports
Production
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
U.S. Department of the Interior
Neg. Econ. 325-70(2)
Bureau of Commercial Fisheries

Figure 1

INDUSTRIAL FISHERY PRODUCTS

SITUATION AND OUTLOOK [1/]

Approved by the Bureau of Commercial Fisheries Situation and Outlook Board, April 6, 1970

CONTENTS

	Page
Summary	3
Fish meal	5
Review: 1969	5
Outlook: April-June 1970	24
Fish solubles	26
Review: 1969	26
Outlook: April-June 1970	27
Fish oil	28
Review: 1969	28
Outlook: April-June 1970	32
Whale oil	33
Review: 1969	33
Outlook: April-June 1970	35
List of Figures	36
List of Tables	37

SUMMARY

FISH MEAL

The total amount of fish meal available in the United States in 1969 (excluding stocks, which are not reported) was about 602,500 tons [2/] -- down 44 percent from 1968. Domestic production of 244,100 tons was up 7.5 percent from 1968 and 10 percent above the 1964-68 average. About 65 percent of the domestic production was menhaden meal--compared to 63 percent in 1968.

U.S. fish meal imports in 1969 were 358,400 tons, only 67 percent of the 1964-68 average imports. About 61 percent of the imports came from Peru--compared to an average of 72 percent in 1964-68.

World production of fish meal (excluding Mainland China) was an estimated 4,182,300 metric tons (4,610,100 short tons) in 1969--down 10

[1] Principal contributor: Jukka Kolhonen, Industry Economist

[2] Short tons are used in this report unless otherwise specified.

percent from the previous year. The decline in world production is attributed mainly to a decline in the output in FEO 3/ countries. These countries produced an estimated 2,610,500 metric tons (2,877,500 short tons) in 1969--down 15 percent from 1968. Peru's share of FEO fish meal production was 62 percent in 1969--nearly the same as in 1968.

Fish meal stocks held by FEO countries on January 1, 1970, were exceptionally low, amounting to an estimated 384,700 metric tons (424,100 short tons)--31 percent below a year ago.

The number of broiler placements in the 22 major broiler-producing states was about 9 percent higher than in 1968. Because of the low quantity of fish meal available in the United States in 1969, only 3.2 to 3.7 percent of the broiler ration was fish meal in 1969--compared with 6 to 7 percent in 1968.

In 1969, the weighted average annual price of menhaden meal was $174.30 per ton f.o.b. East Coast points--the highest average annual price on record. The weighted average annual price for Peruvian fish meal in 1969 was $157.10 per ton f.o.b. East Coast ports--up 20 percent from 1968.

We estimated that about 175,000 short tons of fish meal will be used in the United States in the second quarter of 1970. This estimate assumes that the ratio between fish meal prices and soybean meal prices in the second quarter will not go below 2.10:1--the average of the first 3 weeks of March was 2.40:1. However, the March ratio is abnormally high because of some short term problems in fish meal unloading and shipping. In addition, it assumes that about 825 million broilers will be placed on feed in the second quarter of this year--compared to 765.6 million a year ago.

Peruvian anchoveta catches were very good before the closed season between February 16 and March 15, and the first reports after the resumption of fishing indicate relatively good catches. If this trend continues into the second quarter of 1970, and U.S. prices of fish meal remain relatively higher than European prices, we estimate that the amount of fish meal offered to the market in the United States will be higher in the second quarter of 1970 than during the same period a year ago.

FISH SOLUBLES

The total amount of fish solubles available in the United States in 1969 was 82,200 tons--12 percent more than in 1968. Nearly all of this was produced domestically; imports were only 161 tons in 1969.

The Bureau estimates that total supplies of fish solubles in the second quarter 1970 will be between 26,000 and 28,000 tons. Nearly all of this is expected to come from domestic production.

FISH OIL

The United States produced 167.1 million pounds of fish oil (whale oil and sperm oil excluded) in 1969--down 3 percent from the previous year. Because of heavy exports in relation to production, U.S. stocks of fish oil

3/ Fishmeal Exporters Organization; member countries are Angola, Chile, Iceland, Norway, Peru, South Africa, and South West Africa.

declined from 104.6 million pounds on January 1, 1969, to 39.4 million pounds on the same date in 1970.

U.S. exports of fish oil were 196.1 million pounds in 1969--three times the quantity exported in 1968. More than half of the United States fish oil exports went to the Netherlands in 1969; 9 percent went to West Germany. Sweden and the United Kingdom each took 8.6 percent of the United States fish oil exports in 1969. Domestic use of fish oil was also higher in 1969 than in the previous year. About 34.2 million pounds were used--up 14 percent from 1968.

Prices of menhaden oil increased from an average of 4.70 cents per pound in 1968 to 5.75 cents per pound in 1969. Most of the price increase took place during the second half of 1969.

The use of fish oil in the United States during the second quarter of 1970 is expected to be 7 to 12 million pounds. We estimate that the exports of fish oil in the second quarter 1970 will be less than 35 million pounds but production will be about the same as second quarter 1969 production of 53.1 million pounds. April 1 stocks are estimated to be around 10 million pounds--compared to 53.9 million pounds the year before.

WHALE OIL

The total amount of whale oil available in the United States in 1969 was about 104.8 million pounds. About 51.2 million pounds of the total were beginning stocks, 51.9 million pounds were imported, and 1.7 million pounds were produced in the United States. Most of the imports came from Japan. Whale oil imports for the second quarter this year are estimated to be about 13 million pounds.

The United States reportedly used 41.6 million pounds of whale oil in 1969 and exported 3.3 million pounds. The ending stocks were 44.1 million pounds.

We expect the second quarter use of whale oil in the United States to be nearly 12 million pounds, but exports are likely to decline from the 0.7 million pounds exported during the second quarter of 1969.

FISH MEAL

REVIEW: 1969

Supply

Total Fish Meal Available in the United States in 1969--well Below 1964-68 Average

In 1969, the total amount of fish meal available in the United States (excluding stocks, which are not reported) was about 602,500 tons--44 percent below 1968 and 20 percent below 1964-68 average (table 1 and fig. 1). This decline was due to low imports throughout the year.

Domestic production increased 7.5 percent from the 1968 production and was about 10 percent above the 1964-68 average. Because of low imports, the share of supplies provided by domestic production was 41 percent in 1969--compared to 23 percent the previous year and an average of 29 percent for 1964-68.

Table 1.--Total fish meal available in the United States: production plus imports, by month, 1963-70[1]

Month	1963	1964	1965	1966	1967	1968	1969[2]	1970[2]
	Thousand short tons							
January	20.8	33.1	19.2	18.1	47.7	93.4	30.0	24.4
February	43.0	37.6	28.4	27.5	48.3	51.8	31.5	26.0
March	43.2	43.2	57.5	39.2	79.1	59.2	49.9	
April	35.0	64.1	51.0	50.8	60.0	74.1	72.7	
May	71.4	91.6	55.6	55.3	56.2	89.5	76.9	
June	53.8	83.5	93.1	82.6	74.1	111.7	88.9	
July	82.1	74.1	68.8	85.5	84.0	136.0	77.0	
August	87.7	70.0	55.8	90.8	108.4	123.6	51.8	
September	60.0	56.9	27.9	66.5	76.0	78.9	45.1	
October	49.9	28.3	17.1	46.4	61.5	69.0	38.8	
November	30.8	36.4	17.8	54.7	78.4	85.0	19.3	
December	39.7	45.5	21.0	42.8	79.2	110.2	20.5	
Total[3]	617.4	664.3	513.0	660.2	852.9	1,082.3	602.5	

[1]Excludes meal made from shellfish.
[2]Preliminary.
[3]Figures may not add to total because of rounding.

U.S. Production of Fish Meal in 1969--Above 1968

The United States produced about 244,100 tons of fish meal in 1969. About 65 percent or 159,500 tons of this production was menhaden meal (table 3). Menhaden meal production in 1969 was 11 percent higher than the production of 1968 and 9 percent above the 1964-68 average. The Gulf Coast area produced about 120,500 short tons of menhaden meal--an increase of 41 percent from 1968--and the Atlantic Coast area 39,000 tons--about two-thirds of the production of the previous year in this area.

The increase in menhaden meal production in 1969 was due to record-high landings of menhaden on the Gulf Coast. Landings in that area were 1,154.9 million pounds or 76 percent of the total menhaden landings. Compared to 1968, the increase in the total menhaden landings in 1969, was 13 percent, but the increase in the Gulf Coast area was 40 percent.

Menhaden landings on the Atlantic Coast in 1969 were about 361.4 million pounds--31 percent below 1968. Landings in all Atlantic Coast regions dropped from 1968 and also from the 1964-68 average. Menhaden landings in the South Atlantic were about 86 percent and in the Middle Atlantic only about half the 1968 landings. The Chesapeake Bay landings of 1969 were 63 percent of 1968.

About 38,300 tons or 16 percent of total U.S. fish meal production was made from tuna scrap, mackerel, and anchovies in 1969--up 22 percent from 1968 production and up 38 percent from the 1964-68 average. The increase is due mainly to large landings of anchovy in California.

Table 2.--U.S. production of fish meal by month, 1963-70[1]

Month	1963	1964	1965	1966	1967	1968	1969[2]	1970[2]
	Thousand short tons							
January	2.3	2.1	3.2	2.8	5.7	2.5	2.8	4.3
February	2.9	2.3	2.9	2.3	3.9	2.7	3.9	4.6
March	2.7	3.1	3.8	5.7	4.9	4.5	4.7	
April	8.4	8.1	11.3	11.3	10.1	11.8	14.7	
May	40.3	32.1	25.1	20.3	17.2	19.1	31.8	
June	35.3	49.0	48.6	36.9	33.5	30.8	35.5	
July	38.9	45.2	50.1	36.5	36.4	44.3	40.2	
August	43.7	33.5	42.0	31.4	33.6	36.2	33.5	
September	24.7	22.8	21.1	23.2	20.3	29.6	35.9	
October	18.5	8.6	12.3	11.0	11.4	20.2	19.1	
November	13.4	10.7	12.1	18.9	15.4	14.3	12.7	
December	10.0	7.7	9.8	12.0	9.0	11.0	9.5	
Total[3]	241.1	225.2	242.3	212.4	201.4	227.0	244.1	

[1]Excludes meal made from shellfish.
[2]Preliminary.
[3]Figures may not add to total because of rounding.

Table 3.--U.S. production of fish meal by raw material source, January-December, 1964-68 average, 1968, and 1969

Source	1964-68 average		1968		1969[1]	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
Alewives	2.4	1.1	1.6	0.7	1.5	0.6
Groundfish	8.0	3.6	7.2	3.2	2/	-
Herring	11.7	5.3	15.4	6 8	6.6	2.7
Menhaden[3]	146.7	66.2	143.2	63.1	159.5	65.4
Tuna, mackerel, and anchovies	27.8	12.5	31.5	13.9	38.3	15.7
Unclassified	25.0	11.3	28.1	12.3	38.2	15.6
Total	221.6	100.0	227.0	100.0	244.1	100.0

[1]Preliminary.
[2]Included in "unclassified."
[3]Includes a small quantity of other species.

Table 4.--Production of menhaden meal by area and by month, 1963-70[1]

Month	1963	1964	1965	1966	1967	1968	1969[2]	1970[2]
	Thousand short tons							
	Atlantic Coast							
January	-	0.1	0.2	0.5	-	-	-	
February	-	-	-	-	-	-	-	
March	-	-	-	-	-	-	-	
April	1.1	0.9	0.6	0.2	1.1	1.0	0.2	
May	12.8	5.4	3.9	1.1	1.9	2.7	2.4	
June	12.9	12.2	12.6	4.6	6.6	7.1	4.7	
July	13.5	11.7	8.8	6.0	6.0	10.9	6.0	
August	11.6	11.5	12.7	7.2	6.8	7.1	4.7	
September	9.8	7.2	7.5	5.8	3.5	4.9	3.2	
October	6.1	4.4	6.5	5.7	4.5	8.3	7.2	
November	8.9	7.2	8.5	14.8	10.2	9.2	7.1	
December	6.3	5.0	6.1	7.1	6.2	6.2	3.5	
Total[3]	83.0	65.6	67.4	53.0	46.9	57.5	39.0	
	Gulf Coast							
January	-	-	-	-	-	-	-	
February	-	-	-	-	-	-	-	
March	-	-	-	0.1	-	-	-	
April	4.0	2.0	6.7	3.7	3.7	3.2	4.6	
May	22.0	17.3	14.9	12.9	8.4	8.6	20.7	
June	16.7	27.5	27.8	22.5	16.7	15.4	23.3	
July	18.0	22.3	30.4	18.9	18.6	21.7	26.3	
August	24.4	14.5	20.7	12.4	16.4	18.4	19.3	
September	9.8	10.8	7.5	11.4	7.5	14.4	22.7	
October	6.3	0.3	0.6	-	0.9	4.0	3.6	
November	1/	-	-	-	-	-	-	
December	-	-	-	-	-	-	-	
Total[3]	101.2	94.7	108.6	81.9	72.2	85.7	120.5	
	Total[3]							
January	-	0.1	0.2	0.5	-	-	-	
February	-	-	-	-	-	-	-	
March	-	-	-	0.1	-	-	-	
April	5.1	2.9	7.3	3.8	4.8	4.3	4.8	
May	34.8	22.7	18.8	14.0	10.3	11.4	23.1	
June	29.6	39.7	40.4	27.1	23.3	22.4	28.0	
July	31.5	34.0	39.2	24.9	24.7	32.6	32.3	
August	36.0	26.0	33.4	19.7	23.2	25.4	24.0	
September	19.6	18.0	15.0	17.2	11.0	19.3	25.9	
October	12.4	4.7	7.1	5.7	5.4	12.4	10.8	
November	8.9	7.2	8.5	14.8	10.2	9.2	7.1	
December	6.3	5.0	6.1	7.1	6.2	6.2	3.5	
Total[3]	184.2	160.3	176.0	135.0	119.1	143.2	159.5	

[1]Includes a small amount of meal from other species.
[2]Preliminary.
[3]Figures may not add to total because of rounding.

The current California anchovy season began August 1, 1969, in the Northern Permit Area and September 15 in the Southern Permit Area. The season closes May 15, 1970. Landings for this season through December 31 were about 49,800 tons--nearly four times the landings of the same period in the previous season.

Because the anchovy stock appears ample this season, the California Fish and Game Commission, on January 9, 1970, approved an increase of the anchovy quota from the initial 75,000 tons to 140,000 tons for the current season. On March 29, the season's catch was about 75,000 tons or 54 percent of the quota. This record catch exceeded by 4 1/2 times the catch of the corresponding period of the previous season.

Meal made from sea herring was 6,600 tons in 1969--43 percent of the production of the previous year and about 56 percent of the 1964-68 average. Meal made from other fish amounted to 39,700 tons--8 percent more than in 1968.

U.S. Imports of Fish Meal--35 Percent Below 1964-68 Average

U.S. fish meal imports were 358,400 short tons in 1969--only 42 percent of the record imports of 1968 and 67 percent of the 1964-68 average (tables 6 and 7 and fig. 3). The major factor resulting in low imports was low output of fish meal in Peru, the world's leading producer and exporter of fish meal and in other major producing countries. This was reflected in a sharp increase of fish meal prices causing a decrease in the quantity demanded by U.S. feed mixers.

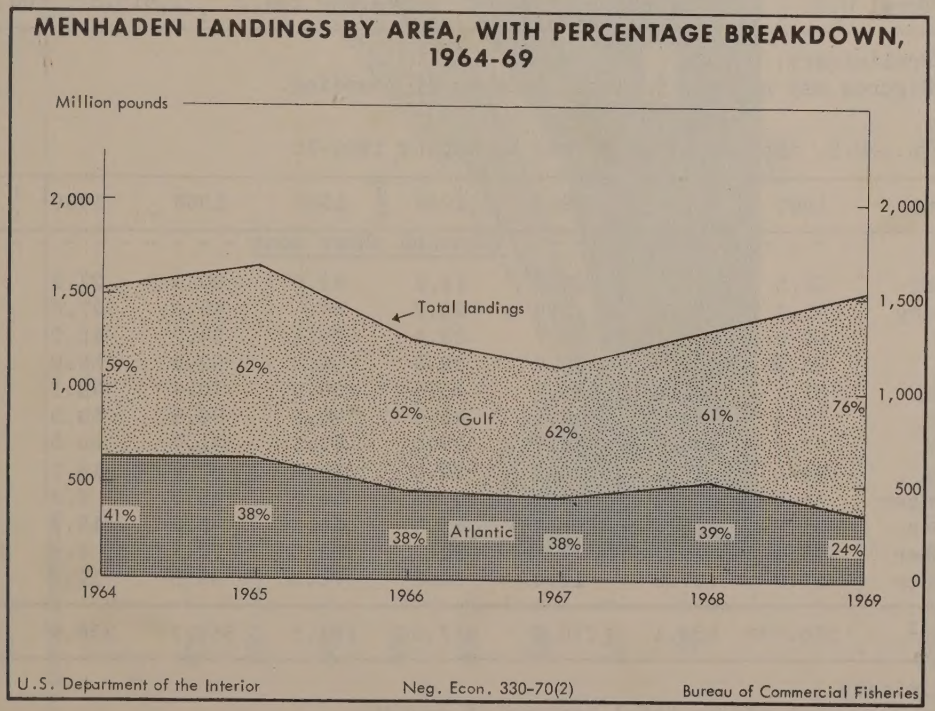


Figure 2

United States fish meal imports from Peru were 218,100 tons in 1969. However, Peru's share was only 61 percent of the total United States fish meal imports in that year, compared to an average of 72 percent in 1964-68. Peruvian fish meal imports to the United States in August were only 330 tons--the lowest since that fishery started in the late 1950's.

Canada shipped 67,800 tons of fish meal to the United States in 1969--4 percent more than in the previous year. During the 4 months from August to November 1969, when imports from Peru were low, Canada was the major supplier of fish meal to this country.

Table 5.--Menhaden landings by area, 1964-68 average, 1968, and 1969

Area	1964-68 average		1968		1969[1]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
Middle Atlantic	78.6	5.7	74.0	5.5	35.7	2.3
Chesapeake	264.5	19.0	256.7	19.1	162.0	10.7
South Atlantic	195.5	14.1	190.2	14.2	163.7	10.8
Total Atlantic[2]	538.6	38.8	521.0	38.8	361.4	23.8
Gulf Coast	848.3	61.2	822.9	61.2	1,154.9	76.2
Total U.S.	1,386.9	100.0	1,343.9	100.0	1,516.3	100.0

[1]Preliminary.
[2]Figures may not add to total because of rounding.

Table 6.--U.S. imports of fish meal by month, 1963-70

Month	1963	1964	1965	1966	1967	1968	1969[1]	1970[1]
	Thousand short tons							
January	18.5	31.0	16.0	15.3	42.0	90.9	27.2	20.1
February	40.1	35.3	25.5	25.2	44.4	49.0	27.6	21.4
March	40.5	40.1	53.7	33.6	74.1	54.7	45.2	
April	26.6	56.0	39.7	39.5	50.0	62.3	58.0	
May	31.1	59.5	30.5	35.0	39.0	70.4	45.1	
June	18.5	34.5	44.5	45.6	40.6	80.9	53.6	
July	43.2	28.9	18.7	49.0	47.6	91.7	36.8	
August	44.0	36.5	13.9	59.4	74.8	87.4	18.3	
September	35.3	34.1	6.8	43.3	55.7	49.3	9.3	
October	31.4	19.7	4.8	35.4	50.1	48.8	19.7	
November	17.4	25.7	5.7	35.7	63.0	70.7	6.6	
December	29.7	37.8	11.0	30.8	70.2	99.3	11.0	
Total[2]	376.3	439.1	270.7	447.8	651.5	855.3	358.4	

[1]Preliminary.
[2]Figures may not add to total because of rounding.

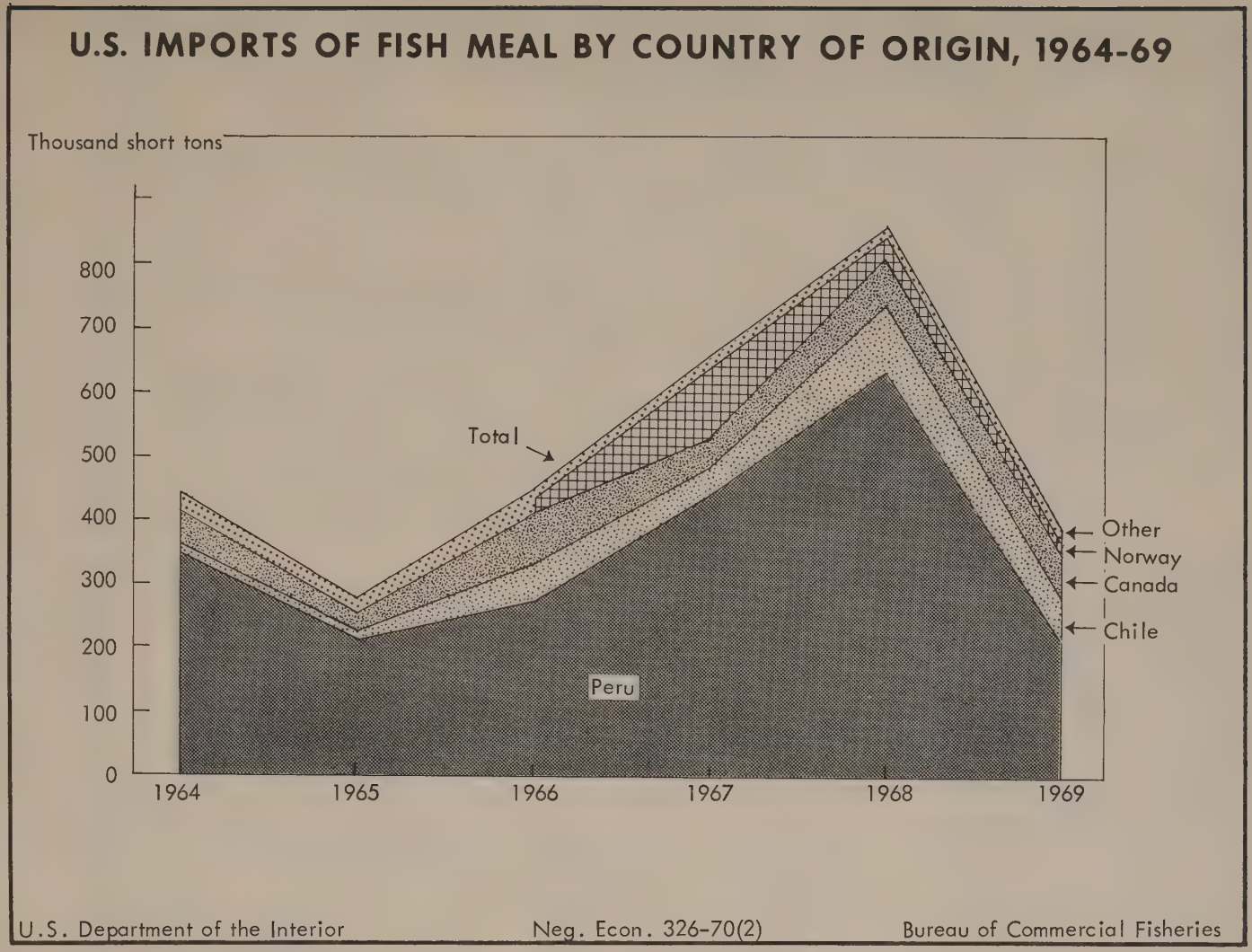

U.S. IMPORTS OF FISH MEAL BY COUNTRY OF ORIGIN, 1964-69
Thousand short tons
800
700
600
500
400
300
200
100
0
1964
1965
1966
1967
1968
1969
Total
Peru
Other
Norway
Canada
Chile
U.S. Department of the Interior
Neg. Econ. 326-70(2)
Bureau of Commercial Fisheries

Figure 3

Imports from Chile were 59,900 tons in 1969--42 percent below 1968 but 18 percent above the 1964-68 average. The share of U.S. fish meal imports from Chile was 16.7 percent--compared to 12.1 percent in 1968.

The United States imported only 8,300 tons of fish meal from Norway in 1969--compared to 41,000 tons in 1968. The average amount imported from Norway in 1964-68 was 35,100 tons.

Table 7.--U.S. imports of fish meal by country of origin, 1964-68 average, 1968, and 1969

Country of origin	1964-68 average		1968		1969	
	Thousand short tons	Percent	Thousand short tons	Percent	Thousand short tons	Percent
Canada	50.8	9.5	65.1	7.6	67.8	18.9
Chile	50.6	9.5	103.9	12.1	59.9	16.7
Norway	35.1	6.6	41.0	4.8	8.3	2.3
Peru	382.6	71.8	635.9	74.7	218.1	60.9
South Africa and South West Africa	6.0	1.1	-	-	-	-
Other	7.8	1.5	9.3	1.1	4.2	1.2
Total[1]	532.9	100.0	855.3	100.0	358.4	100.0

[1]Figures may not add to total because of rounding.

Table 8.--U.S. imports of fish meal as a percent of total fish meal available in the United States[1], by month 1963-70

Month	1963	1964	1965	1966	1967	1968	1969	1970
	Percent							
January	88.9	93.6	83.3	84.5	88.0	97.3	90.7	82.4
February	93.2	93.9	89.8	91.6	91.9	94.6	87.6	82.3
March	93.8	92.8	93.4	85.7	93.7	92.4	90.6	
April	76.0	87.4	77.8	77.8	83.3	84.2	79.8	
May	43.6	65.0	54.8	63.3	69.4	78.7	58.6	
June	34.4	41.3	47.8	55.2	54.8	72.5	60.3	
July	52.6	39.0	27.2	57.3	56.7	67.4	47.8	
August	50.2	52.1	24.9	65.4	69.0	70.7	35.3	
September	58.8	59.9	24.4	65.1	73.3	62.5	20.6	
October	62.9	69.6	28.1	76.3	81.5	70.7	50.8	
November	56.5	70.6	32.0	65.3	80.4	83.3	34.2	
December	74.8	83.1	52.4	72.0	88.6	90.1	53.7	
Average[2]	60.9	66.1	52.8	67.8	76.4	79.0	59.5	

[1]Production and imports.
[2]Weighted average.

World Fish Meal Production in 1969--Below 1968

World production of fish meal in 1969 was an estimated 4,182,300 metric tons (4,610,100 short tons)--down 10 percent from 1968 but up about 6 percent from the 1964-68 average (table 9). These comparisons do not include Mainland China. Although Japan and the U.S.S.R. do not generally report their fish meal production, estimates of their production are included in the total world production (table 9).

Japan's fish meal production was reported as 455,400 metric tons (502,000 short tons) in 1968, and the 1969 production is estimated to be about 518,000 metric tons (571,000 short tons). The U.S.S.R.'s production was estimated to be about 330,700 metric tons (364,500 short tons) in 1968 and nearly 400,000 metric tons (440,900 short tons) in 1969. Fish meal demand and the production capacity of the Soviet Union has increased in recent years.

In 1969, members of FEO (Fishmeal Exporters Organization) made about 62 percent of the estimated world fish meal--compared to 66 percent in 1968. Thus, the world decline of fish meal production is due mainly to the decline in FEO countries. Peru's share of world production was about 39 percent--compared with 41 percent in 1968. The United States made about 5 percent of the world fish meal in 1969--the same as in 1968.

Canada produced 126,500 metric tons (139,400 short tons) of fish meal in 1969--up 3 percent from 1968 and 1.4 times the average for 1964-68. Canada's share of the world fish meal production was about 3 percent in 1969.

Table 9.--FEO[1] and total world production of fish meal, 1964-68 average, 1968, and 1969

Country	1964-68 average		1968		1969[2]	
	Thousand metric tons	Percent	Thousand metric tons	Percent	Thousand metric tons	Percent
Angola	52.1	2.0	54.7	1.8	89.5	3.4
Chile	145.4	5.6	187.2	6.1	130.4	5.0
Iceland	129.6	5.0	53.2	1.7	63.9	2.4
Norway	362.1	13.8	401.9	13.0	309.2	11.8
Peru	1,608.5	61.4	1,922.0	62.2	1,611.0	61.8
South Africe and South West Africa	320.3	12.2	469.2	15.2	406.4	15.6
Total FEO[3]	2,618.0	100.0	3,088.3	100.0	2,610.5	100.0
Total world[4]	3,927.4		4,666.6		4,182.3	
Percent FEO is of world		66.7		66.2		62.4

[1]Fishmeal Exporters Organization.
[2]Preliminary.
[3]Figures may not add to total because of rounding.
[4]FEO countries plus Belgium, Canada, Denmark, France, Sweden, the United Kingdom, the United States, West Germany, Spain, Morocco, Japan, and the U.S.S.R.

FEO Fish Meal Production--Down 15 Percent From 1968

Fish meal production of FEO countries was estimated to be 2,610,500 metric tons (2,877,500 short tons) in 1969--down 15 percent from 1968.

Production of South Africa and South West Africa was down 13 percent; production of Norway, down 23 percent; Chile, 30 percent; and Peru, 16 percent. Peru's share in FEO fish meal production remained high also in 1969. It was 62 percent--nearly the same as in 1968.

The Peruvian 1969-70 fishing season began very poorly. Fish meal production in January-November was 26 percent lower than during the same period in 1968. Major reasons for the decline were warm water driving fish to below normal depth, a nationwide fishermen's strike in November, and an early appearance of small-size, immature anchoveta. In December, however, the anchoveta catch in Peru was nearly record high, and about 311,400 metric tons (343,300 short tons) of fish meal were produced--up 87 percent from December 1968. Peru's total production in 1969 was 1,611,000 metric tons (1,775,800 short tons).

FEO Exports Above Average

Fish meal exports from FEO countries were estimated at 2,555,400 metric tons (2,816,000 short tons) in 1969--down 19 percent from 1968 but slightly more than the 1964-68 average. Peru exported about 1,655,600 metric tons (1,825,000 short tons) in 1969--down 20 percent from 1968 but up 8.5 percent from the 1964-68 average. Peru's exports accounted for 65 percent of total FEO exports in 1969 and 66 percent in 1968.

About 12 percent of Peru's fish meal exports came to the United States in 1969--compared to nearly 28 percent in 1968 and about 26 percent in 1967.

West Germany became Peru's most important export market in 1969, taking 23 percent of Peru's fish meal exports. The share of this market was about 19 percent in 1968. One reason for West Germany's high imports of fish meal in 1969 was a law which required a certain percent of fish meal in mixed feed. This law was abolished on December 19, 1969.

About 45 percent of Peru's exports went to the EC 1/countries in 1969--compared with 36 percent in 1968.

Fish meal exports of FEO countries declined sharply during the third quarter of 1969. September exports were the lowest monthly exports since November 1965, amounting to 120,800 metric tons (133,200 short tons)--52 percent of the September 1968 exports. Third quarter exports were 517,200 metric tons (570,100 short tons). Fish meal exports from FEO countries during the fourth quarter were 469,600 metric tons (517,600 short tons)--down 43 percent from the same period in 1968.

1/ European Communities; also referred to as the Common Market; formerly European Economic Community.

Table 10.--Total FEO[1] exports of fish meal, and FEO exports to the United States, by month, 1964-68 average, 1968, and 1969

Month	1964-68 average			1968			1969[2]		
	Total FEO exports	FEO exports to the United States[3]		Total FEO exports	FEO exports to the United States[3]		Total FEO exports	FEO exports to the United States[3]	
	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent
January	208.8	31.4	15.0	279.5	79.0	28.3	214.9	18.6	8.6
February	195.2	29.0	14.9	283.9	41.5	14.6	244.7	18.9	7.7
March	232.0	41.6	18.4	260.9	44.7	17.1	278.6	35.7	12.8
April	213.6	40.9	19.1	259.8	52.9	20.4	280.4	47.8	17.0
May	211.6	38.0	18.0	246.4	56.7	23.0	310.1	37.3	12.0
June	208.7	40.4	19.4	277.8	68.7	24.7	239.8	44.8	18.7
July	212.0	38.0	17.9	277.5	77.0	27.7	235.1	28.3	12.0
August	174.9	44.0	25.2	198.9	71.0	35.7	161.3	9.1	5.6
September	162.7	29.5	18.1	230.1	37.1	16.1	[4]120.8	0.5	0.4
October	170.8	23.8	13.9	248.4	35.5	14.3	[4]147.3	10.1	6.9
November	190.7	32.6	17.1	287.9	59.7	20.8	[4]171.5	2.6	1.5
December	231.8	41.0	17.7	291.4	84.6	29.0	[4]150.8	6.1	4.0
Total[5]	2,412.8	430.4	17.8	3,142.6	708.4	22.5	2,555.4	259.8	10.2

[1]Fishmeal Exporters Organization: members are those countries listed in table 9.
[2]Preliminary.
[3]Based on imports of fish meal from FEO countries as reported by the U.S. Department of Commerce, Bureau of the Census.
[4]Estimated.
[5]Figures may not add to total because of rounding.

Table 11.--Total FEO[1] exports of fish meal, and FEO exports to the United States, by member country, 1964-68 average, 1968, and 1969

Country	1964-68 average			1968			1969[2]		
	Total FEO exports	FEO exports to the United States[3]		Total FEO exports	FEO exports to the United States[3]		Total FEO exports	FEO exports to the United States[3]	
	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent	Thousand metric tons	Thousand metric tons	Percent
Angola	48.7	0.1	-	46.1	-	-	[4]90.0	-	-
Chile	133.4	45.9	34.4	167.2	94.3	56.4	144.9	54.4	37.5
Iceland	127.8	-	-	60.6	-	-	59.8	-	-
Norway	326.7	31.8	9.7	432.0	37.2	8.6	303.7	7.5	2.5
Peru	1,525.0	347.1	22.8	2,083.2	576.9	27.7	1,655.6	197.9	12.0
South Africa and South West Africa	251.3	5.5	2.2	353.4	-	-	301.4	-	-
Total[5]	2,412.8	430.4	17.8	3,142.6	708.4	22.5	2,555.4	259.8	10.2

[1]Fishmeal Exporters Organization: members are those countries listed in the table.
[2]Preliminary.
[3]Based on imports of fish meal from FEO countries as reported by the U.S. Department pf Commerce, Bureau of the Census.
[4]Estimated
[5]Figures may not add to total because of rounding.

Table 12.--FEO[1] exports of fish meal to the EC (European Communities), the United States, and other countries, 1967, 1968, and 1969

Country	1967		1968		1969[2]	
	Thousand metric tons	Percent	Thousand metric tons	Percent	Thousand metric tons	Percent
EC						
Belgium	78.8	3.0	64.0	2.0	57.2	2.2
France	74.8	2.8	74.2	2.4	62.2	2.4
Germany, West	459.7	17.6	583.5	18.6	552.8	21.6
Italy	116.1	4.4	113.0	3.6	104.7	4.1
Netherlands	166.3	6.4	253.2	8.0	238.3	9.3
Total	(895.7)	(34.2)	(1,087.9)	(34.6)	(1,015.2)	(39.7)
United States	541.3	20.7	708.4	22.5	259.8	10.2
Other						
Australia	16.8	0.6	28.2	0.9	31.8	1.2
Czechoslovakia	58.8	2.2	43.7	1.4	27.6	1.1
Finland	21.5	0.8	31.6	1.0	23.3	0.9
Germany, East	78.8	3.0	92.1	2.9	89.7	3.5
Hungary	15.1	0.6	28.4	0.9	34.6	1.4
Japan	96.4	3.7	137.5	4.4	87.4	3.4
Mexico	55.6	2.1	84.9	2.7	57.9	2.3
Poland	67.4	2.6	103.6	3.3	112.8	4.4
Spain	112.8	4.3	114.4	3.6	137.5	5.4
Sweden	45.3	1.7	56.0	1.8	49.8	1.9
United Kingdom	362.0	13.8	399.5	12.7	342.3	13.4
Venezuela	23.0	0.9	34.1	1.1	25.1	1.0
Yugoslavia	68.8	2.6	53.0	1.7	55.1	2.2
Other	159.1	6.1	139.3	4.4	205.5	8.0
Total[3]	(1,181.4)	(45.1)	(1,346.3)	(42.9)	(1,280.4)	(50.1)
Total	2,618.4	100.0	3,142.6	100.0	2,555.4	100.0

[1]Fishmeal Exporters Organization.
[2]Figures for Angola and Iceland were estimated.
[3]Figures may not add to total because of rounding.

FEO Fish Meal Stocks on January 1, 1970--Down From a Year Ago

Stocks of fish meal held by FEO countries on January 1, 1970, were an estimated 384,700 metric tons (424,100 short tons)--down 31 percent from the amount of stocks held at the same date last year, and 21 percent from the 1964-68 average for January 1 (table 13).

Peru held 306,900 metric tons (338,300 short tons) or 80 percent of

the FEO stocks on January 1, 1970--, compared to 391,700 tons (431,800 short tons) or 70 percent of the total last year. The high share of Peruvian fish meal stocks on January 1 this year is due to the sharp increase in output in December. Peru's stocks of fish meal in the beginning of December were only 98,600 metric tons (108,700 short tons), when FEO stocks were lowest in recent years--222,700 metric tons (245,500 short tons).

No substantial increase of stocks took place in any other FEO country in the month of December. Norway, Iceland, South Africa, and South West Africa actually continued to draw down their stocks. Norway held 14 percent of FEO fish meal stocks at the beginning of 1969 and 11 percent on January 1 this year. Norway's stocks at the beginning of this year were 47 percent lower than the stocks a year earlier. Fish meal stocks of South Africa and South West Africa were 40 percent below stocks on January 1, 1969. Their share of FEO stocks was 7 percent on January 1, 1970--about 1 percentage point less than a year ago.

The low level of FEO stocks was a partial reason for the high prices of fish meal in the world markets during the second half of 1969.

Table 13.--FEO[1] fish meal stocks held January 1, 1964-68 average, 1969, and 1970

Country	1964-68 average		1969		1970[2]	
	Thousand metric tons	Percent	Thousand metric tons	Percent	Thousand metric tons	Percent
Angola	4.4	0.9	15.1	2.7	[3]1.9	0.5
Chile	15.3	3.1	26.7	4.8	5.8	1.5
Iceland	26.1	5.4	1.4	0.2	[3]1.4	0.4
Norway	89.0	18.3	79.9	14.3	42.6	11.0
Peru	326.0	67.0	391.7	70.1	306.9	79.8
South Africa and South West Africa	25.6	5.3	44.0	7.9	26.2	6.8
Total[4]	486.4	100.0	558.8	100.0	384.7	100.0

[1]Fishmeal Exporters Organization: members are those countries listed in the table
[2]Preliminary.
[3]Estimated.
[4]Figures may not add to total because of rounding.

Demand

1969 Broiler Placements 9 Percent Over 1968

In 1969, 2,847.1 million broiler chicks were placed on farms in the leading broiler-producing States (table 14). This number is about 9 percent above the placements in 1968 and 15 percent more than the 1964-68 average. The demand for broilers is strong as reflected in both increasing consumption and increasing prices. In 1969, broiler prices averaged 15.2 cents per pound--8 percent more than the previous year.

Because of relatively high prices of fish meal in 1969, compared to competing feed ingredients, the demand for fish meal did not increase as did the broiler placements. A preliminary

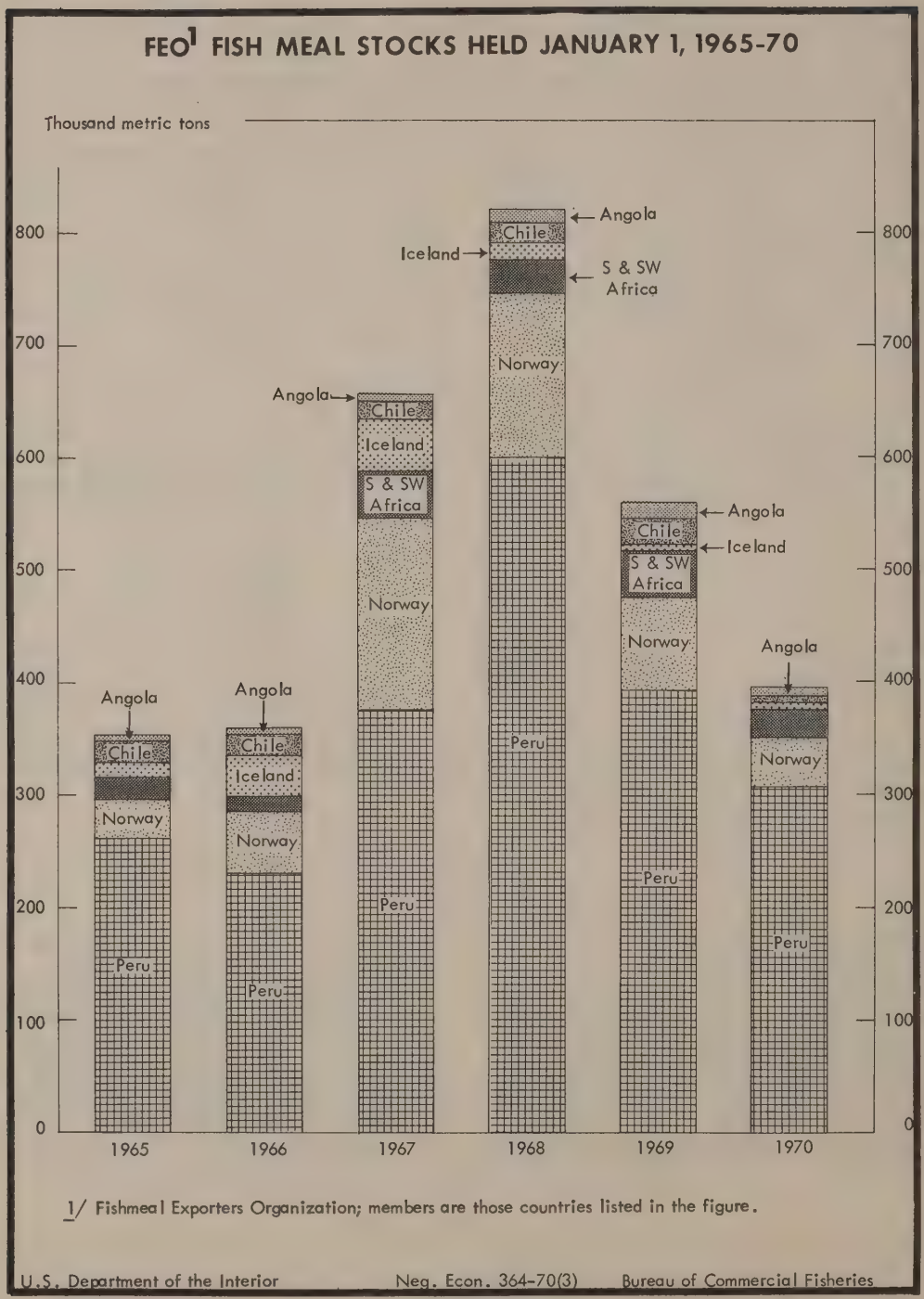

FEO[1] FISH MEAL STOCKS HELD JANUARY 1, 1965-70
Thousand metric tons
800
700
600
500
400
300
200
100
0
1965
1966
1967
1968
1969
1970
Angola
Chile
Iceland
S & SW Africa
Norway
Peru
1/ Fishmeal Exporters Organization; members are those countries listed in the figure.
U.S. Department of the Interior
Neg. Econ. 364-70(3)
Bureau of Commercial Fisheries

Figure 4

estimate of the U.S. Department of Agriculture shows that broilers consumed about 12,446,000 tons of feed in 1969. If we assume that 70 to 80 percent of the total available fish meal in the United States is used in broiler feed, and there is no substantial change in fish meal stocks from year to year, then 3.2 to 3.7 percent of the 1969 broiler ration was fish meal. In 1968, 6 to 7 percent of the broiler ration was fish meal and in 1967, 4.9 to 5.6 percent was fish meal. The decline in the use of fish meal can be attributed to the increase in the prices of domestic and Peruvian fish meal and to an increase in the ratio between the average price of fish meal and the average price of substitute ingredients, such as soybean meal (table 16).

Average Soybean Meal Price Below 1968

In 1969, the average price of soybean meal at Decatur, Ill., was $82.90 per ton--$2.10 per ton lower than in 1968. The average monthly prices of January-November 1969 were below the same months in 1968. Average price in December increased in this month $11 above the price a year ago. Reasons for the rapid price increase were the scarcity of fish meal and cottonseed meal, a shortage of soybean meal for quick shipment, and a temporary lack of transportation facilities.

The ratio of fish meal price to the price of soybean meal increased steadily during 1969, from 1.75:1 in January to 2.63:1 in November. The December increase for soybean meal reduced the ratio to 2.26:1. The relatively low level of the soybean meal price compared to the price of fish meal favored the use of soybean meal in animal feeds in 1969.

Table 14.--Broiler chick placements in 22 States, and average broiler price at the farm, by month, 1967-70

Month	1967		1968		1969[1]		1970[1]	
	Chicks placed	Broiler price	Chicks placed	Broiler price	Chicks placed	Broiler price	Chicks placed	Broiler price
	Million	Cents/lb.	Million	Cents/lb.	Million	Cents/lb.	Million	Cents/lb.
January	192.0	13.9	196.4	13.5	200.3	14.3	288.1	14.8
February	204.1	15.4	199.5	14.6	210.9	15.0		
March	217.6	14.3	261.0	14.6	282.3	15.3		
April	272.9	13.8	215.1	14.2	234.2	14.7		
May	217.6	13.3	274.1	14.6	296.1	14.8		
June	214.8	13.5	218.7	15.0	235.3	15.2		
July	259.6	14.7	208.5	15.5	220.8	17.3		
August	199.9	12.9	248.5	14.8	265.4	16.5		
September	224.7	12.6	178.3	14.1	205.1	15.6		
October	175.0	12.2	184.6	12.8	205.2	14.7		
November	185.7	11.5	242.1	13.6	271.5	14.2		
December	230.8	11.6	194.8	13.4	220.0	13.5		
Total placements[2] and average price[3]	2,594.7	13.4	2,621.7	14.1	2,847.1	15.2		

[1]Preliminary.
[2]Figures may not add to total because of rounding.
[3]Weighted average.

Sources: Commercial Broilers: Annual Production and Weekly Placements, U.S. Department of Agriculture, Statistical Reporting Service, and Poultry and Egg Situation, U.S. Department of Agriculture, Economic Research Service.

Table 15.--Average monthly price of soybean meal[1] at Decatur, Ill., 1964-70

Month	1964	1965	1966	1967	1968	1969	1970
	Dollars per short ton						
January	85.40	75.40	85.00	89.30	81.30	79.50	97.60
February	82.60	77.20	86.20	85.20	80.20	78.40	95.60
March	82.30	76.10	80.00	83.70	80.40	80.10	79.65
April	80.00	78.40	82.40	80.70	80.90	81.30	
May	74.20	77.70	89.00	80.10	81.90	84.90	
June	73.20	85.10	101.00	87.20	89.10	88.20	
July	72.90	86.00	104.10	85.00	92.00	86.20	
August	71.00	80.50	106.10	86.90	94.50	84.10	
September	77.10	89.20	97.90	87.60	95.50	82.70	
October	76.80	80.80	91.50	78.20	85.30	82.10	
November	72.70	84.50	86.40	78.10	79.40	76.90	
December	75.50	78.30	92.70	79.40	79.40	90.40	
Average[2]	77.00	80.75	91.85	83.45	85.00	82.90	

[1]50 percent protein, bulk.
[2]Simple average.

Source: Feed Market News, U.S. Department of Agriculture, Consumer and Marketing Service, Grain Division.

Table 16.--Ratio of Peruvian fish meal price[1] to soybean meal price[2], by month, 1963-70

Month	1963	1964	1965	1966	1967	1968	1969	1970
	Price ratio							
January	1.67	1.56	1.88	2.04	1.66	1.48	1.75	2.02
February	1.60	1.61	1.88	1.98	1.64	1.48	1.80	1.92
March	1.60	1.61	1.88	2.07	1.61	1.44	1.75	2.42
April	1.60	1.58	1.89	1.86	1.62	1.42	1.80	
May	1.61	1.70	1.98	1.75	1.59	1.61	1.90	
June	1.55	1.72	1.96	1.54	1.50	1.57	1.90	
July	1.49	1.78	2.01	1.55	1.55	1.56	2.01	
August	1.40	1.87	2.25	1.52	1.51	1.46	2.05	
September	1.42	1.75	2.04	1.56	1.47	1.39	2.08	
October	1.53	1.82	2.29	1.56	1.59	1.51	2.36	
November	1.51	1.95	2.20	1.68	1.55	1.65	2.63	
December	1.55	1.87	2.30	1.64	1.52	1.74	2.26	
Average	1.54	1.71	1.92	1.70	1.56	1.54	1.89	

[1]F.o.b. East Coast ports for 65 percent protein meal, bagged, as quoted at New York City.
[2]Wholesale at Decatur, Ill., for 50 percent solvent meal, bulk.

Prices

Fish Meal Prices--Record High

The weighted average price of menhaden meal (bagged, 60 percent protein) in 1969 was $174.30 per ton f.o.b. East Coast points--compared to $145.30 in 1968 (table 17). The average monthly price increased during the year from the January low of $149.25 to the November high of $200.10 per ton--an increase of 34 percent. During the last week of November, prices began to decline. The December price was $199.25 per ton. In February 1970, the average monthly price of menhaden meal was $196.50 per ton (table 17).

The average price of Peruvian fish meal in 1969 was $157.10--up 20 percent from 1968. The increase in the annual average price was in line with the annual price increase of menhaden meal and tuna and mackerel meal. In 1969, the increase from the January low of $139.50 per ton, to the December high of $204.00 was 46 percent. From July, 1969, to January, 1970, monthly prices of Peruvian fish meal have exceeded the traditionally higher price for menhaden meal (table 19).

The primary reasons for the increase in the price of fish meal in the United States were a substantial decline in the fish meal output of Peru and other major producing countries during the year and the consequent decline of world stocks of fish meal.

Table 17.--Average monthly price of menhaden meal[1], f.o.b. East Coast and Gulf points, 1965-70

Month	1965	1966	1967	1968	1969	1970
	Dollars per short ton					
January	144.15	[2]179.80	153.10	[2]131.00	149.25	195.90
February	146.25	[2]172.55	[2]154.00	[2]131.00	153.00	196.50
March	150.00	[2]170.60	[2]154.00	[2]131.00	153.00	189.90
April	153.00	[2]163.00	135.00	[2]131.00	[2]154.00	
May	156.00	[2]153.80	135.80	[2]131.00	174.00	
June	160.90	160.35	139.00	149.00	172.60	
July	170.25	164.00	137.40	149.65	171.90	
August	172.10	169.00	137.10	149.00	168.90	
September	175.00	166.20	136.75	145.00	171.60	
October	185.40	160.00	136.00	141.60	189.30	
November	186.00	151.15	[2]132.00	140.50	200.10	
December	186.00	153.10	[2]131.60	145.10	199.25	
Average[3]	168.50	161.05	136.55	145.30	174.30	

[1]60 percent protein, bagged, as quoted by brokers at New York City.
[2]Nominal price as presented in the Oil, Paint and Drug Reporter.
[3]Average weighted by monthly production of menhaden meal.

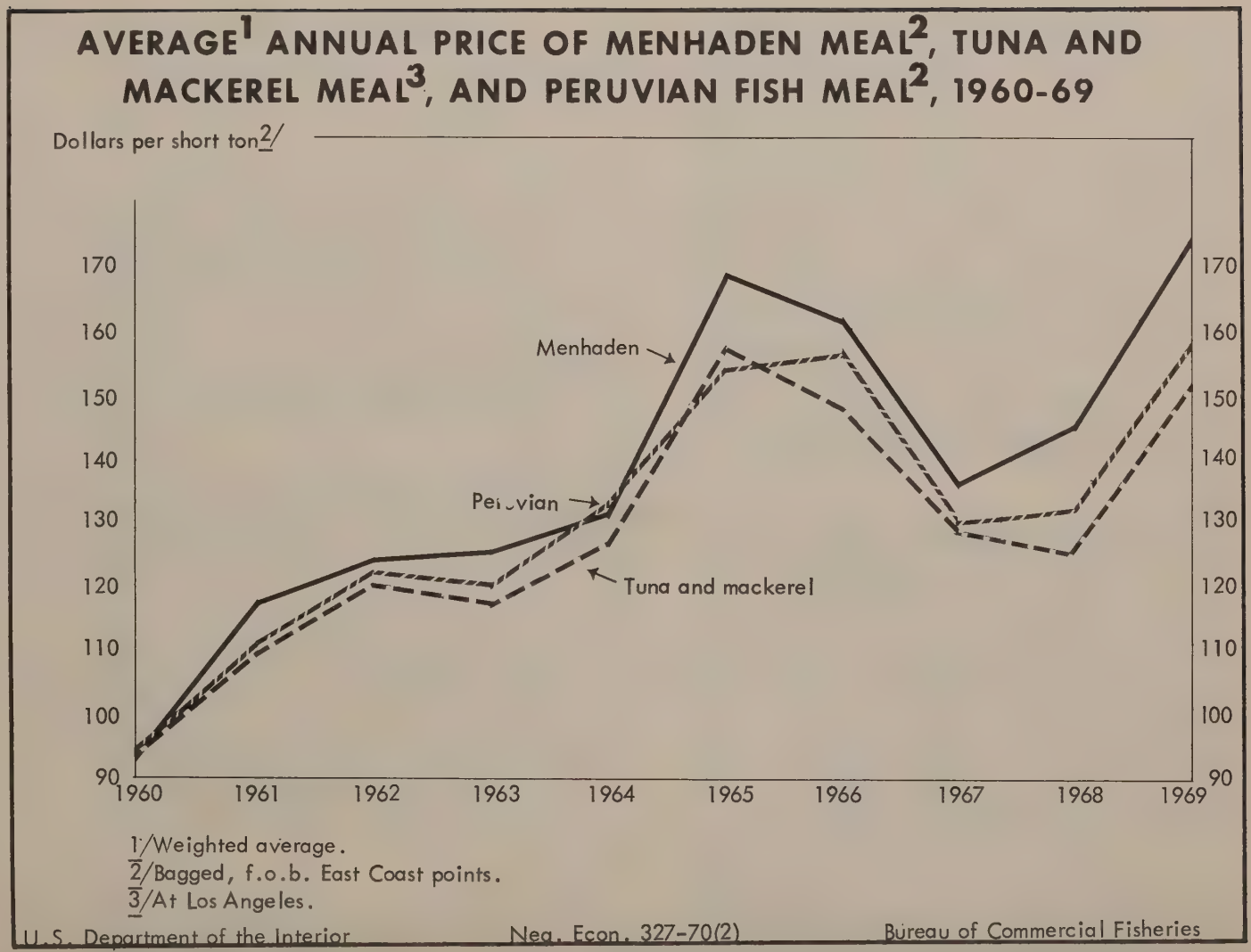

AVERAGE[1] ANNUAL PRICE OF MENHADEN MEAL[2], TUNA AND MACKEREL MEAL[3], AND PERUVIAN FISH MEAL[2], 1960-69
Dollars per short ton 2/
170
160
150
140
130
120
110
100
90
Menhaden
Peruvian
Tuna and mackerel
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1/Weighted average.
2/Bagged, f.o.b. East Coast points.
3/At Los Angeles.
U.S. Department of the Interior
Neg. Econ. 327-70(2)
Bureau of Commercial Fisheries

Figure 5

Table 18.--Average monthly price of tuna and mackerel meal[1] at Los Angeles, 1965-70

Month	1965	1966	1967	1968	1969	1970
	Dollars per short ton					
January	136.20	174.60	144.00	123.00	133.50	172.50
February	137.40	174.60	144.00	124.80	135.00	[2]172.50
March	139.20	167.40	142.80	124.80	132.00	[2]177.00
April	141.60	148.80	139.80	115.50	126.30	
May	146.40	141.00	127.20	117.00	138.00	
June	150.60	138.00	124.80	121.50	144.00	
July	157.20	141.60	123.00	127.50	147.00	
August	166.20	144.00	123.00	132.00	147.00	
September	174.00	144.00	121.80	132.00	150.00	
October	174.60	144.00	120.00	132.00	169.50	
November	174.60	144.00	120.00	132.00	177.00	
December	174.60	144.00	120.60	132.00	174.00	
Average[3]	157.75	148.10	129.60	125.85	151.10	

[1]60 percent protein, bagged, as quoted by brokers at Los Angeles.
[2]Tuna, mackerel, and anchovy meal.
[3]Average weighted by monthly production of tuna and mackerel meal.

Table 19.--Average monthly price of Peruvian fish meal[1], f.o.b. East Coast ports, 1965-70

Month	1965	1966	1967	1968	1969	1970
	Dollars per short ton					
January	141.60	173.00	148.20	120.20	139.50	197.50
February	144.90	170.90	140.00	119.00	141.00	183.50
March	142.70	165.80	134.50	116.00	140.50	192.70
April	148.40	153.75	130.50	115.20	146.80	
May	153.75	155.40	127.70	131.90	161.00	
June	166.50	155.50	131.25	140.00	168.00	
July	172.90	161.00	131.60	143.20	173.50	
August	181.00	161.00	131.50	137.90	172.10	
September	182.50	152.25	128.90	132.75	172.00	
October	184.90	143.10	124.30	129.20	193.40	
November	186.00	144.80	121.00	131.00	202.40	
December	180.25	152.50	121.00	138.10	204.00	
Average[2]	154.65	156.40	130.15	130.95	157.10	

[1]65 percent protein, bagged, as quoted by brokers at New York City.
[2]Average weighted by monthly imports of Peruvian fish meal.

OUTLOOK: APRIL-JUNE 1970

Demand

The major factors affecting fish meal use in the United States are the number of broiler placements and the price of fish meal in comparison to the prices of competing feed ingredients. We estimate that about 825 million broilers will be placed on feed in the second quarter this year--7 percent more than a year ago.

During the first quarter of 1970, fish meal prices continued to be high in relation to the major competing feed ingredient, soybean meal. Because the prices of Peruvian fish meal greatly influence the use of fish meal in the United States, developments in the Peruvian fishing industry are important in forecasting such use. Preliminary estimates indicate that Peruvian fish meal production in January and up to February 16, 1970, was 525,000 metric tons (578,700 short tons). Stocks on March 1 were estimated at 461,700 metric tons (508,900 short tons)--up 50 percent from the beginning of the year. These figures suggest a bearish market for Peruvian fish meal.

Several counteracting factors, however, are reducing the effect of January-February high stocks and production in Peru. First, to conserve the anchovy resources, Peru imposed a closed-season on anchovy fishing between February 16 and March 15 this year. Second, taxes on Peruvian exports of fish meal increased at the beginning of this year. The taxes include a Fishing Canon of 1.5 percent of the f.o.b. value of all exported fish meal. Third, a consortium West Coast-South American Northbound Conference Shipping Lines, is increasing the freight rates of sacked fish meal from Peru to the United State's Gulf and Atlantic ports. The increase amounts to a minimum of $7.50 per metric ton for cargoes of less than 1,000 tons and $5.50 for cargoes 1,000 tons and over. The share of sacked fish meal imported to the United States was about 60 percent of total in 1969. This year, however, sacked meal is expected to be only 20 to 30 percent whereas most of the imports will be in bulk form.

Fourth, the planned joint selling by the four major Peruvian fish meal selling groups also will tend to lessen chances for a reduction in the price of fish meal, at least temporarily.

All of these factors probably will tend to hold the price of fish meal up in the first few months of the year and thus reduce its competitiveness with other feed ingredients.

On the other hand, prices for soybean meal (50 percent protein, at Decatur) averaged $97.60 in January and $95.60 in February 1970--about 22 to 23 percent above a year ago, reducing the price difference between that feed ingredient and fish meal.

If fish meal prices are above $175 per ton and soybean meal prices decline below an average of $80 per ton, in the second quarter of 1970, then about 175,000 tons of fish meal will be used in the United States during the period of April to June. The apparent use during the second quarter of 1969 was 230,800 tons, and the 1964-68 average was 218,600 tons.

Supply

We estimate that U.S. production of fish meal for the second quarter of 1970 will be close to 70,000 tons with menhaden meal amounting to about 60 percent of the total U.S. production.

U.S. production of fish meal in the second quarter of 1969 was about 81,800 short tons. Declining trend suggests that second quarter production in 1970 would be much lower than in 1969. However, higher prices tend to bring an increase to the quantity produced when the resource, such as anchovy, has not been fully used. Preliminary figure of January production of fish meal was 4,300 short tons--compared to 2,400 tons a year ago. In the middle of February, anchovy landings of the 1969-70 season in the California anchovy reduction fishery were 4.5 times the amount during the comparable period in the previous season. The season closes May 15. Menhaden fishing begins in April. Although Gulf menhaden landings likely will be below 1969, a reasonably good season is expected.

We estimate that 140,000 to 210,000 short tons of fish meal will be imported into the United States in the second quarter of this year--compared to 156,800 tons in 1969. Total supplies of fish meal in the United States in April-June 1970, including domestic production and imports, would then be 210,000 to 280,000 tons.

Peru is the major supplier of fish meal to the United States. Last year in April-June, 68 percent of United States imports came from Peru. As indicated earlier, Peru's fish meal supplies were ample before the closed-season and the exports were record high during the last 2 weeks of February. When the season re-opened, landings continued high. If good fishing continues, Peruvian exports are expected to be above last year during the second quarter of 1970. We estimate that Peru will export a total of 550,000 to 650,000 metric tons (606,300-716,500 short tons) in the second quarter of 1970. Peruvian exports of fish meal to the United States were exceptionally low during the first 2 months of 1970. However, because the ratio of the price of Peruvian fish meal at New York to the price at Hamburg, West Germany, was about 1.14:1 in the first quarter, the amount of fish meal offered by Peru to the market in the United States during the second quarter could be 90,000 to 150,000 metric tons (about 100,000 to 165,000 short tons). If the price ratio declines during the second quarter, Peruvian supplies to the United States could be less than 100,000 short tons.

Because of relatively low stocks, other FEO countries are expected to ship somewhat less fish meal to the United States during the second quarter this year than a year ago, possibly 25,000 to 30,000 short tons--compared to last year's 36,200 tons.

Fish meal producing capacity in Canada has increased, and exports to the United States are expected to be higher during the second quarter this year than a year ago when 12,400 tons were exported to the United States.

We estimated above that about 175,000 tons of fish meal would be used in the United States during the second quarter of 1970, assuming above $175 per ton for fish meal and below $80 per ton for soybean meal. Supplies of more than 175,000 tons of fish meal would be associated with an average price o lower than $175 per ton.

FISH SOLUBLES

1969 REVIEW

Supply

Fish Solubles--Up From Last Year

The total amount of fish solubles available (excluding stocks) in the United States in 1969 was 82,200 tons--up 12 percent from 1968 (table 20). Nearly all of this came from domestic production.

An estimated 82,100 tons of fish solubles were produced in the United States in 1969. This amount is 14 percent more than the 71,800 tons produced in 1968 but 2 percent less than the 1964-68 average annual production. About 77 percent of the domestic solubles were made from menhaden in 1969--compared to 74 percent in 1968. About three-fourths of the menhaden solubles were produced in the Gulf Coast area in 1969--compared with a little over half in 1968.

U.S. Imports of Fish Solubles--Less Than 10 Percent of 1968 Imports

U.S. imports of fish solubles have declined steadily during the past 4 years. Imports were 5,138 tons in 1965, 1,773 tons in 1968, and only 161 tons in 1969.

About 90 percent, or 146 tons, of the United States imports of fish solubles came from Canada in 1969. The rest of the imports were supplied by Mexico. Although Peru has been traditionally the major source of United States imports of fish solubles, no solubles came from that country in 1969.

Table 20.--Total fish solubles available in the United States: production plus imports, by month, 1963-70

Month	1963	1964	1965	1966	1967	1968	1969[1]	1970[1]
	Thousand short tons							
January	1.7	1.9	1.8	1.6	2.0	0.6	0.8	1.3
February	1.7	1.4	2.8	1.8	1.2	0.7	1.4	1.7
March	3.1	1.2	1.3	3.8	2.1	2.3	1.5	
April	4.3	4.3	3.9	5.0	6.6	4.1	5.1	
May	16.1	13.2	10.9	9.4	7.2	6.3	11.1	
June	14.4	19.1	18.0	15.3	13.6	10.8	12.5	
July	15.5	19.5	18.7	14.1	12.5	14.9	11.9	
August	19.0	14.8	18.2	12.8	12.3	11.8	11.0	
September	11.7	10.1	9.0	9.9	6.8	9.0	12.7	
October	7.8	5.3	6.8	5.4	5.1	6.1	5.8	
November	5.1	4.0	5.9	5.9	5.5	4.3	4.6	
December	6.7	3.0	2.6	2.6	3.5	3.2	3.8	
Total[2]	107.3	97.8	99.9	87.7	78.3	76.6	82.2	

[1]Preliminary.
[2]Figures may not add to total because of rounding.

Demand

The average annual price of menhaden solubles was $49.60 per ton in 1969--6 percent below 1968 and the lowest annual average in 8 years (table 21). Low prices together with low imports indicate a weak demand for fish solubles. Towards the end of 1969, when prices of competing feed ingredients, mainly fish meal, increased substantially, the demand for solubles improved and made possible an increase in the monthly average price. Prices of fish solubles reached their 1969 maximum monthly average of $52.50 per ton f.o.b. East Coast plants in December.

OUTLOOK: APRIL-JUNE 1970

Demand

Prices of menhaden solubles declined during the first 2 months of 1970. The February average price was $50.90 per ton. This price is almost identical to the February 1969 price and about $17.83 less than the 1964-68 average for the same month. If prices continue at this low level during the second quarter, feed mixers may use nearly as much fish solubles during the second quarter 1970 as was used a year ago.

Supply

The United States produced about 28,700 tons of fish solubles during the second quarter of 1969 and about 21,000 tons in 1968. Imports in that period of 1968 and 1969 were negligible.

Total available quantity (production and imports) of fish solubles in the second quarter of 1970 is estimated to be 26,000 to 28,000 tons. Nearly all of this will come from domestic production.

Table 21.--Average monthly price of menhaden solubles[1], f.o.b. East Coast plants, 1965-70

Month	1965	1966	1967	1968	1969	1970
	Dollars per short ton					
January	58.60	66.25	80.85	60.50	51.25	51.25
February	59.40	66.50	79.00	63.75	51.25	50.90
March	61.25	66.70	70.75	61.25	49.40	51.75
April	56.25	68.75	64.60	56.25	47.75	
May	53.75	68.75	64.00	54.05	47.50	
June	55.75	68.75	64.40	53.75	49.75	
July	56.85	68.75	64.05	53.50	51.25	
August	60.00	68.75	62.85	52.50	49.40	
September	61.25	72.50	61.25	51.90	48.75	
October	63.95	78.75	60.75	51.50	50.60	
November	65.25	79.25	60.00	51.55	51.25	
December	66.25	81.90	60.00	51.25	52.50	
Average[2]	58.30	70.75	63.25	52.90	49.60	

[1]In tank cars; prices quoted by brokers at New York City.
[2]Weighted average.

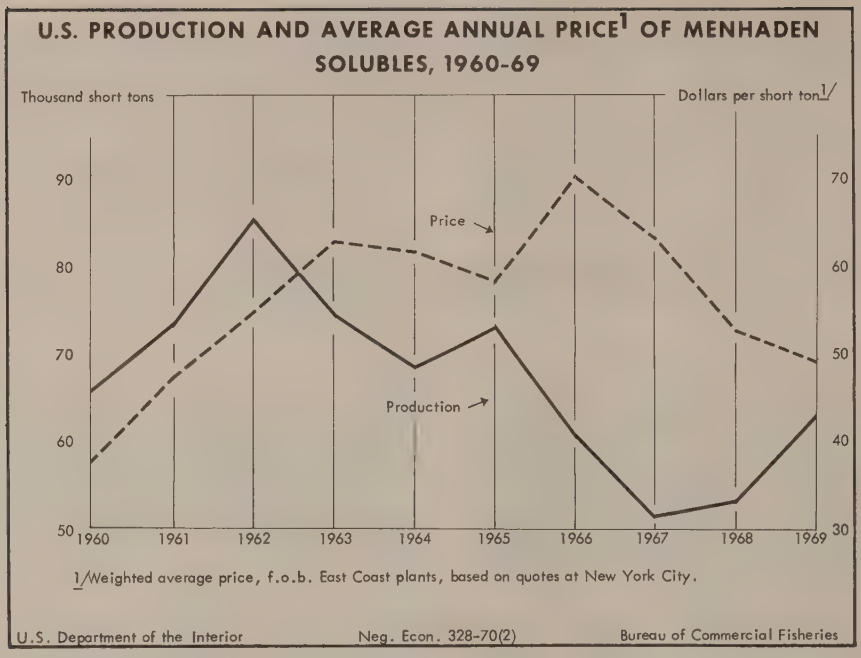


Figure 6

FISH OIL

1969 REVIEW

Supply

End-of-Year Stocks 39 Million Pounds

U.S. stocks of fish oil at the beginning of 1969 were 104.6 million pounds--31 percent more than the stocks held at the same time the year before (table 22). Heavy exports in relation to production reduced the level of stocks towards the end of 1969. At the end of the year, stocks of fish oil in the United States were only 39.4 million pounds--about two-fifths of the stocks at the beginning of the year and 43 percent of the 1964-68 average end-of-year stocks.

Fish Oil Production--Slightly Below 1968

In 1969, the United States produced 167.1 million pounds of fish oil (whale and sperm oil excluded)--down 3 percent from the year before and up 1 percent from the 1964-68 average (table 23). Eighty-nine percent of the total production was menhaden oil--about the same percentage as in 1968. Four-fifths of the menhaden oil was produced in the Gulf Coast area.

Herring, tuna, mackerel, and anchovies accounted for 7 percent of

Table 22.--Fish oil in the United States: beginning stocks, production, imports, domestic use, exports, and ending stocks, 1960-69[1]

Year	Beginning stocks	Production	Imports	Domestic use	Exports	Ending stocks
			Million pounds			
1960	66.0	205.9	8.9	56.8	143.6	52.4
1961	52.4	254.6	8.4	64.8	122.5	94.0
1962	94.0	247.5	10.8	62.9	123.0	125.9
1963	125.9	183.7	8.6	52.1	262.3	96.9
1964	96.9	177.0	11.8	47.7	151.5	70.9
1965	70.9	192.8	6.0	44.5	103.8	100.4
1966	100.4	162.7	12.7	38.8	77.2	99.4
1967	99.4	119.9	7.0	35.8	76.8	80.0
1968	80.0	171.7	6.0	30.0	65.1	104.6
1969[2]	104.6	167.1	4.0	34.2	196.1	39.4
1970[2]	39.4					

[1]Beginning stocks plus production plus imports minus domestic use minus exports will not equal ending stocks because domestic use figures do not include use for animal feed.
[2]Preliminary.

Sources: Bureau of Commercial Fisheries and Current Industrial Reports: Fats and Oils, Series M20K, U.S. Department of Commerce, Bureau of the Census.

the fish oil production in 1969--compared to about 9 percent in 1968. More oil was produced from tuna, mackerel, and anchovies in 1969 than in 1968, whereas oil produced from herring declined.

Imports of Fish Oil--Lowest in 10 Years

U.S. imports of fish oil were only 4 million pounds in 1969--down one-third from 1968 and down 54 percent from the 1964-68 average (table 22). These imports were mainly cod body oil and some amounts of herring oil. Whale oil and fish liver oils are not included in these import figures.

Demand

U.S. Use of Fish Oil--Up 14 Percent From 1968

Fish oil can be used for various industrial products such as lubricants, leather treatment agents, and manufacture of fatty acids, plastics, and resins. The United States used about 34.2 million pounds of fish oil in 1969--up 14 percent from 1968 but down 13 percent from the 1964-68 average annual use.

The relatively low price of fish oil in the first half of the year is probably a major reason for the increased use of fish oil in the United States in 1969.

U.S. Exports of Fish Oil in 1969--Three Times 1968 Exports

The United States exported 196.1 million pounds of fish oil in 1969--three times the amount exported in 1968 and more than twice the 1964-68 average (table 24). Nearly all of the U.S. fish oil exports in 1969 was menhaden oil--the same as in previous years.

More than half of the United States fish oil exports went to the Netherlands in 1969--56 percent compared to 29 percent in 1968. The amount of United States fish oil exported to the Netherlands--110.6 million pounds--was more than the total fish oil exports to all countries in each of the 4 preceding years. In 1969, Sweden received 8.6 percent of U.S. fish oil exports--compared to 47

Table 23.--U.S. production of fish oil by raw material source, 1964-68 average, 1968, and 1969

Source	1964-68 average		1968		1969[1]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
Herring	8.4	5.0	9.5	5.5	3.5	2.1
Menhaden	146.1	88.7	152.0	88.6	149.0	89.2
Tuna, mackerel, and anchovies	5.2	3.2	5.4	3.1	8.4	5.0
Unclassified[2]	5.1	3.1	4.8	2.8	6.2	3.7
Total[2]	164.8	100.0	171.7	100.0	167.1	100.0

[1]Preliminary.
[2]Excludes whale oil.

Table 24.--U.S. exports of fish oil by country of destination, 1964-68 average, 1968, and 1969

Country	1964-68 average		1968		1969[1]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
Canada	1.0	1.0	1.6	2.5	1.3	0.7
Netherlands	26.0	27.4	19.0	29.2	110.6	56.4
Sweden	34.8	36.7	30.6	47.0	16.9	8.6
United Kingdom	7.1	7.5	2/	-	16.9	8.6
West Germany	13.9	14.6	13.7	21.0	17.5	8.9
Other	12.1	12.8	0.2	0.3	32.9	16.8
Total	94.9	100.0	65.1	100.0	196.1	100.0

[1]Preliminary.
[2]Less than 50,000 pounds.

percent the year before. Nine percent of the oil went to West Germany and 8.6 percent to the United Kingdom in 1969. In 1968, West Germany received 21 percent, while only a negligible amount went to the United Kingdom.

Major competitors of United States fish oil in the world markets are Peru, Norway, South Africa and South West Africa, Denmark, Iceland, and Chile. In 1969, the fish oil exports of these countries, with the exception of Norway and Iceland, declined. Fish oil exports of the U.S. competitors in 1969 were only about 65 percent of their exports of 1968. This factor contributed greatly to the high exports of U.S. fish oil in 1969.

Prices

Menhaden Oil Prices--Increased in 1969

The average annual price of menhaden oil, quoted at New York City, was 5.75 cents per pound in 1969--compared to 4.70 cents in 1968 and 6.40 in 1967 (table 25). The average monthly price increased from 4.70 cents per pound in January to 8.50 cents per pound in December. Most of the increase took place during the second half of the year, when prices increased 3.25 cents per pound. Rising prices reflected a decline in world fish oil production and indicated a higher demand for U.S. fish oil.

Table 25.--Average monthly price of menhaden oil[1], f.o.b. East Coast plants, 1965-70

Month	1965	1966	1967	1968	1969	1970
			Cents per pound			
January	9.15	9.50	8.90	6.00	4.70	8.75
February	9.50	9.70	8.90	6.10	5.00	[2]9.25
March	9.50	9.75	8.60	5.75	5.20	
April	9.50	9.75	7.20	5.35	5.30	
May	9.45	9.75	6.90	5.25	5.25	
June	9.15	9.60	6.95	5.25	5.20	
July	8.95	9.40	6.70	4.85	5.25	
August	9.30	9.00	6.00	4.55	5.65	
September	9.50	9.45	5.80	4.40	6.10	
October	9.50	9.45	6.00	4.45	6.75	
November	9.50	9.20	6.00	4.40	8.20	
December	9.50	8.90	6.00	4.40	8.50	
Average[3]	9.25	9.40	6.40	4.70	5.75	

[1]Crude oil in tank cars; prices quoted by brokers at New York City.
[2]Asking price.
[3]Weighted average.

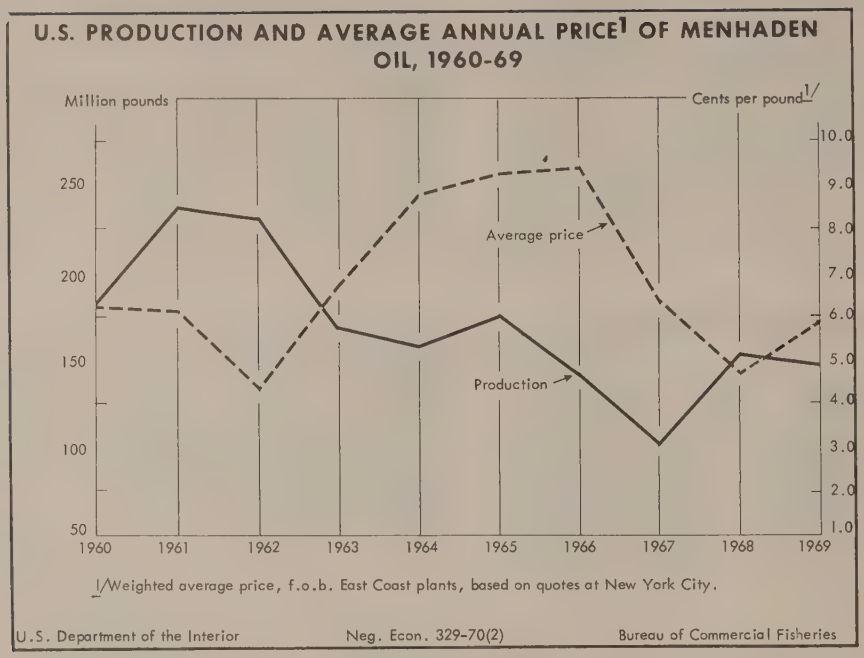


Figure 7

OUTLOOK: APRIL-JUNE 1970

Demand

The industrial use of fish oils in the United States in the second quarter of 1969 was 9.0 million pounds--4 precent below the 1964-68 average. In January and February 1970, the ratios of the price of fish oil to the prices of tall, linseed, and soybean oils were higher than a year ago, and could mean a decrease in the use of fish oil. On the basis of these price ratios, we estimate that the domestic use of fish oil during the second quarter of this year will be between 7 and 12 million pounds.

U.S. fish oil exports in January 1970 continued strong. About 11.1 million pounds were exported--nearly three times the amount exported in January 1969. Because of the expected low April 1 stocks in the United States and the expected increase in the world output of fish oils and heavy competition from soybean and other oils, U.S. exports in the second quarter of 1970 likely will remain below last year's second quarter exports of 45.4 million pounds. We expect that less than 35 million pounds will be exported during the second quarter 1970.

Table 26.--Average monthly price of tuna and mackerel oil[1] at Los Angeles, 1965-70

Month	1965	1966	1967	1968	1969	1970
			Cents per pound			
January	6.60	8.00	6.50	3.50	3.25	3.25
February	7.00	7.85	6.50	3.25	3.10	3.50
March	7.10	7.85	6.60	3.25	3.00	3.65
April	7.25	7.60	6.25	3.25	3.00	
May	7.35	7.50	6.25	3.25	3.00	
June	7.60	7.35	6.00	3.25	3.00	
July	8.00	7.10	5.75	3.25	3.00	
August	8.35	7.00	4.60	3.25	3.10	
September	8.50	7.00	3.75	3.25	3.25	
October	8.60	7.00	3.75	3.25	3.25	
November	8.60	7.00	3.75	3.25	3.00	
December	8.10	7.00	3.75	3.25	3.00	
Average[2]	8.00	7.30	5.20	3.25	3.10	

[1]Crude oil, f.o.b. plant; prices quoted by brokers at Los Angeles.
[2]Weighted average.

Supply

U.S. production of fish oil in January was 0.7 million pounds. During the same time, 11.1 million pounds of fish oil were exported. As a result, stocks declined to about 28 million pounds by Februray 1. Stocks are likely to decline relatively fast until the menhaden fishing season begins in April. We estimate that the stocks of fish oil at the beginning of the second quarter will be about 10 million pounds.

Figures of U.S. fish oil production in January and February indicate that the production is running about at the level of last year. We estimate that the second quarter production of 1970 will be about the same as the 53 million pounds of fish oil produced in the second quarter a year ago.

WHALE OIL

1969 REVIEW

Supply

Total Available Whale Oil in 1969--Down 16 Percent From 1968

The total amount of whale oil available in the United States in 1969 was 104.8 million pounds--down 16 percent from 1968 and down 21 percent from the 1964-68 average. Nearly half of the available whale oil was beginning stocks and nearly half was imported whereas only a small amount was produced domestically (table 27). In 1968, the share of beginning stocks was 53 percent, while imports provided close to 46 percent.

Whale Oil Stocks at the End of 1969--Lowest in 8 Years

Whale oil stocks were 44.1 million pounds at the end of 1969--compared to 51.2 million pounds a year ago. The stocks were the lowest since the end of 1961 when the stocks were 38.9 million pounds.

U.S. Whale Oil Production--Up From 1968

The U.S. whale oil production was about 1.7 million pounds in 1969--up 13 percent from the 1.5 million pounds of the previous year (table 27). Nearly one-quarter of the 1969 production was sperm oil.

Table 27.--Whale oil in the United States: beginning stocks, production, imports, domestic use, exports, and ending stocks, 1960-69[1]

Year	Beginning stocks	Production	Imports	Domestic use	Exports	Ending stocks
			Million pounds			
1960	47.7	3.3	37.5	46.9	1.4	31.9
1961	31.9	3.5	60.5	46.6	1.2	38.9
1962	38.9	2.6	69.2	35.2	2.7	56.5
1963	56.5	2.1	67.3	36.1	5.6	71.5
1964	71.5	3.2	58.9	33.6	5.6	69.0
1965	69.0	2.7	77.2	34.8	5.9	84.9
1966	84.9	1.4	58.4	29.0	4.4	59.1
1967	59.1	2.5	51.4	37.2	1.8	66.3
1968	66.3	1.5	57.5	39.9	4.1	51.2
1969[2]	51.2	1.7	51.9	41.6	3.3	44.1

[1]Beginning stocks plus production plus imports minus domestic use minus exports will not equal ending stocks because of discrepancies in reporting.
[2]Preliminary.

Sources: Bureau of Commercial Fisheries and Current Industrial Reports: Fats and Oils, Series M20K, U.S. Department of Commerce, Bureau of the Census.

Whale Oil Imports--Down 10 Percent From 1968

The United States imported 51.9 million pounds of whale oil in 1969--down about 10 percent from 1968 and down 14 percent from the 1964-68 average. Japan remained the largest source of U.S. whale oil imports although her share declined from 57 percent in 1968 to about 40 percent in 1969. Peru shipped 21 percent of the United States whale oil imports in 1969--compared to 15 percent the year before. After a pause in 1968, whale oil imports from the Netherlands continued in 1969 and were nearly 7 percent of total United States imports.

Table 28.--U.S. imports of whale oil by country of origin, 1964-68 average, 1968, and 1969

Country	1964-68 average		1968		1969[1]	
	Million pounds	Percent	Million pounds	Percent	Million pounds	Percent
Japan	27.9	46.0	32.9	57.2	21.0	40.5
Netherlands	5.2	8.6	-	-	3.6	6.9
Peru	8.4	13.8	8.7	15.1	11.0	21.2
Other	19.2	31.6	15.9	27.7	16.3	31.4
Total	60.7	100.0	57.5	100.0	51.9	100.0

[1]Preliminary.

Demand

Domestic Use of Whale Oil--Up 4 Percent From 1968

Whale oil has many technical uses. Oil of the baleen whales is used primarily in the production of soaps and glycerine. Oil from the sperm whales is mainly used in cosmetics, as a lubricant, and in the production of fatty oil acids. The United States used 41.6 million pounds of whale oil in 1969. This amount was 4 percent more than the amount used in 1968 and the highest since 1961 when 46.6 million pounds were used.

U.S. Exports of Whale Oil--Down 20 Percent From 1968

The United States exported 3.3 million pounds of whale oil in 1969--down 20 percent from 1968 and down 24 percent from the 1964-68 average (table 27). About 70 percent of U.S. whale oil exports went to Canada in 1969--compared to 30 percent in 1968. Netherlands took 16 percent of the exports of 1969, whereas 54 percent went to that country in 1968.

OUTLOOK: APRIL-JUNE 1970

Demand

Annual use of whale oil in the United States has increased steadily since 1966. Second quarter use increased from 7.3 million pounds in 1966 to 10.9 million pounds in 1968, but experienced a slight decline in 1969, when 10.1 million pounds were used. The amount of whale oil used in January 1970 was 4.0 million pounds--29 percent higher than a year ago. We expect the second quarter use of whale oil in the United States to be nearly 12 million pounds.

Second quarter exports increased from 0.4 million pounds in 1968 to 0.7 million pounds in 1969, although annual exports remained smaller in 1969 than the year before. The trend of U.S. whale oil exports has been declining in recent years, and second quarter exports this year may be less than exports of the same period a year ago.

Supply

The amount of U.S. production of whale oil in the second quarter of 1969 was 0.7 million pounds--compared to 0.4 million pounds a year before. Second quarter production has had, however, a declining trend over the preceding years, and 1970 second quarter production likely will be less than 1 million pounds.

Second quarter imports of whale oil in 1969 were 14.4 million pounds--down 44 percent from the second quarter of the previous year. Whale oil imports in January this year were about 13.7 million pounds--2.8 times last year's January imports. These imports restored the exceptionally low January 1 stocks, and further imports this year can be expected at closer to the monthly average levels of 1969. We estimate that the second quarter imports will be about 13 million pounds.

LIST OF FIGURES

Figure		Page
1	U.S. production, imports, and total supplies of fish meal, 1960-69.	2
2	Menhaden landings by area, with percentage breakdown, 1964-69.	9
3	U.S. imports of fish meal by country of origin, 1964-69	11
4	FEO fish meal stocks held January 1, 1965-70 . . .	18
5	Average annual price of menhaden meal, tuna and mackerel meal, and Peruvian fish meal, 1960-69. .	22
6	U.S. production and average annual price of menhaden solubles, 1960-69.	28
7	U.S. production and average annual price of menhaden oil, 1960-69	32

LIST OF TABLES

Table		Page
1	Total fish meal available in the United States: production plus imports, by month, 1963-70.	6
2	U.S. production of fish meal by month, 1963-70 . . .	7
3	U.S. production of fish meal by raw material source, January-December, 1964-68 average, 1968, and 1969.	7
4	Production of menhaden meal by area and by month, 1963-70	8
5	Menhaden landings by area, 1964-68 average, 1968, and 1969.	10
6	U.S. imports of fish meal by month, 1963-70.	10
7	U.S. imports of fish meal by country of origin, 1964-68 average, 1968, and 1969	12
8	U.S. imports of fish meal as a percent of total fish meal available in the United States, by month, 1963-70.	12
9	FEO and total world production of fish meal, 1964-68 average, 1968, and 1969.	13
10	Total FEO exports of fish meal, and FEO exports to the United States by month, 1964-68 average, 1968 and 1969.	15
11	Total FEO exports of fish meal, and FEO exports to the United States, by member country, 1964-68 average, 1968, and 1969.	15
12	FEO exports of fish meal to the EC (European Communities), the United States, and other countries, 1967, 1968, and 1969.	16
13	FEO fish meal stocks held January 1, 1964-68 average, 1969, and 1970.	17
14	Broiler chick placements in 22 States, and average broiler price at the farm, by month, 1967-70.	19
15	Average monthly price of soybean meal at Decatur, Ill., 1964-70	20
16	Ratio of Peruvian fish meal price to soybean meal price, by month, 1963-70.	20
17	Average monthly price of menhaden meal, f.o.b. East Coast and Gulf points, 1965-70.	21
18	Average monthly price of tuna and mackerel meal at Los Angeles, 1965-70.	23
19	Average monthly price of Peruvian fish meal, f.o.b. East Coast ports, 1965-70	23
20	Total fish solubles available in the United States: production plus imports, by month, 1963-70.	26

Table		Page
21	Average monthly price of menhaden solubles, f.o.b. East Coast plants, 1965-70.	27
22	Fish oil in the United States: beginning stocks, production, imports, domestic use, exports, and ending stocks, 1960-69.	29
23	U.S. production of fish oil by raw material source, 1964-68 average, 1968, and 1969.	30
24	U.S. exports of fish oil by country of destination, 1964-68 average, 1968, and 1969	30
25	Average monthly price of menhaden oil, f.o.b. East Coast plants, 1965-70.	31
26	Average monthly price of tuna and mackerel oil at Los Angeles, 1965-70.	33
27	Whale oil in the United States: beginning stocks, production, imports, domestic use, exports, and ending stocks, 1960-69.	34
28	U.S. imports of whale oil by country of origin, 1964-68 average, 1968, and 1969.	35

The Industrial Fishery Products Situation and Outlook is published four times a year in January, April, July, and October.

The next issue is scheduled for release in July.

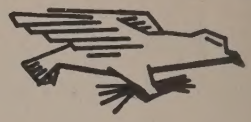
UNITED STATES DEPARTMENT OF THE INTERIOR

Walter J. Hickel, Secretary
Leslie L. Glasgow, Assistant Secretary
for Fish and Wildlife, Parks, and Marine Resources
Charles H. Meacham, Commissioner, U.S. Fish and Wildlife Service
Philip M. Roedel, Director, Bureau of Commercial Fisheries

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Commercial Fisheries
Washington, D.C. 20240

OFFICIAL BUSINESS

Postage and Fees Paid
U.S. Department of the Interior



NOTICE

If you no longer need this publication, check here ☐ return this sheet, and your name will be dropped from the mailing list.

If your address should be changed, write the new address on this sheet and return the whole sheet to:

Division of Current Economic Analysis
Department of the Interior
1801 N. Moore Street
Arlington, Virginia 22209

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources."

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.

* U.S. GOVERNMENT PRINTING OFFICE :